

09/695,028
BUR920000047US1

2

A feature of the present invention, in a non-limiting embodiment is that a reflective material may be isolated from an etching process.

With the unique and unobvious method of the invention, a reflectance correlation may be obtained between a primary film being etched and a secondary film being used only to correlate and trigger an endpoint on the primary film. Thus, the output being monitored for endpoint detection does not require physically representing the film being etched. Such a feature results in an improved turn-around-time, low cost, improved efficiency, and improved manufacturability (e.g., see page 5, lines 13-20; page 7, lines 5-20; and page 9, lines 1-12).

An exemplary configuration of the present invention is shown being applied to a structure in Figures 4A, 5A, and 6A of the application.

The conventional methods, such as those discussed in the Related Art section of the present application, fail to provide for such an operation nor do they have such a structure.

II. THE 35 U.S.C. 112, FIRST PARAGRAPH REJECTION

The Examiner asserts that claims 1-33 allegedly

[contains] subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The terms "wherein said reflective material is isolated from an etching process" in claim 1, last line, "wherein said correlation material is isolated from an etching process" in claim 12, last line, and "wherein said opaque material is isolated from an etching process" in claim 23, last line are new matter. The specification does not describe isolating the reflective material from an etching process; Fig. 5A and Fig 6A show that is etched.

Thus, presumably, the Examiner is objecting to the specification and rejecting the claims on the ground that the specification fails to provide an adequate written description, and specifically that the description of the material isolated from an etching process in claims 1, 12, and 23 is not adequate. The Examiner's position and reasoning are faulty for several reasons. That is, the claim amendments of October 9, 2002, to independent claims 1, 12, and 23, are not new matter and are fully supported by the specification.

09/695,028
BUR920000047US1

3

First, prior to reaching the merits of the Examiner's rejections, Applicant points out to the Examiner that an inventor can be his own lexicographer, as is well-known. Thus, the fact that the claims or specification may not use the exact terminology and language which the Examiner desires is not critical (or indeed relevant) to the allowability of the case and the sufficiency of the disclosure with regard to conveying to ordinarily skilled artisans that the inventor had possession of the claimed subject matter.

Secondly, the Examiner has presented no reasons for his contention that the written description of the invention is inadequate. For an Examiner to make out a prima facie case under §112, first paragraph, the Examiner has the initial burden of specifically pointing out the defects in the specification and why these defects make the specification "inadequate". Instead, in the Office Action, the Examiner merely refers to claims 1, 12, and 23 in his assertions that "[t]he specification does not describe isolating the reflective material from an etching process; Fig 5A and Fig6A (sic) show that (sic) is etched". This fails to meet the Examiner's initial burden of setting forth a prima facie case.

Thirdly, the test for compliance with the written description requirement under §112, first paragraph, is whether the Applicant has conveyed with reasonable clarity to those skilled in the art that, as of the filing date, he or she was in possession of the invention, not whether there is presence or absence of literal support in the specification for the claim language. In re Wright, 866 F.2d 422, 9 U.S.P.Q. 2d 1649 (Fed. Cir. 1988); In re Kaslow and Universal Product Code Council, Inc., 707 F.2d 1366, 217 U.S.P.Q. 1089 (Fed. Cir. 1983).

Thus, although the Applicant does not have to describe exactly and verbatim the subject matter claimed, the description must clearly allow the ordinarily skilled artisan to recognize that the Applicant had invented what is being claimed. The test for sufficiency of support is whether the disclosure of the application reasonably conveys to the artisan that the inventor had possession at the time of filing of the claimed subject matter. In the case at hand, Applicant submits that an artisan in the relevant technology would recognize clearly that the inventor had possession of the claimed invention.

Indeed, Applicant notes that the present invention as defined by claim 1 (and substantially similarly by independent claims 12 and 23) is a method of etching a substrate including "*measuring a reflectance signal from a reflective material deposited on said substrate as the substrate is being etched; correlating the substrate etch rate to the*

09/695,028
BUR920000047US1

4

reflectance signal from the reflective material; and using the etch relation between the substrate and the reflective material to determine the etch target” As a result, the output being monitored for endpoint detection does not have to physically represent the film being etched. Such a feature results in an improved turn-around-time, low cost, improved efficiency, and improved manufacturability, as described in the specification.

Indeed, such a method is clearly described, inter alia and for example, on (e.g., see page 5, lines 3-5; page 7, lines 17-20; page 8, lines 20-23 and page 9, lines 1-4) and is shown in the Figures (e.g., see Figs. 4A-6A) which illustrate a substrate 41 (e.g., quartz in a non-limiting embodiment), a metal 42 formed on the substrate (e.g., chrome, in a non-limiting embodiment), an oxide 43 (e.g., chrome oxide in a non-limiting embodiment), and a resist layer 44. The metal 42 is the reflective material being isolated from the etching process.

Indeed, Page 5, lines 3-5 describe that

a method of etching a material includes measuring a reflectance signal from a correlation material that is removed from the path of a second material that is to be etched (emphasis Applicant's).

Such disclosure clearly would indicate to one of ordinary skill in the art that the Applicant had possession of the claimed subject matter including that a correlation material is removed from the path of a material being etched. Further, the specification as originally filed describes, on page 5, lines 17-20 that

[b]y correlating the quartz etch to the rate of the chrome oxide etch, the reflectance signal from the chrome can be used to determine an endpoint for the quartz etch process.

Thus, the disclosure clearly would indicate to one of ordinary skill in the art that the Applicant had possession of the claimed subject matter including determining an end point based upon a correlation of a quartz etch and a chrome oxide etch. Nowhere in the disclosure is it described or shown that the chrome is etched. Thus, the reflectance signal from the reflective material (e.g., chrome; metal layer 42 in Fig. 4A-6A), is from a reflectance material that is isolated from an etching process. Therefore, the Examiner's assertion that “[t]he

09/695,028
BUR920000047US1

5

specification does not describe isolating the reflective material from an etching process” is erroneous.

Further, the specification as filed describes, on page 9, lines 2-3 that

...the chrome oxide is not completely removed...

Thus, as described by the specification, and as shown in Figs. 5A-6A the metal layer 42 is not etched. Only the chrome oxide layer 43 is shown as etched while the quartz substrate 41 is etched. Thus, the Examiner’s assertions (e.g., as understood by the Applicant) that “Fig 5A and Fig6A (sic) show that (sic) is etched”, are erroneous.

Thus, in view of the foregoing and the Application as originally filed, a “*reflective material is isolated from an etching process*”, as defined by independent claim 1 (and substantially similarly by independent claims 12 and 23) and its progeny, is clearly described for the ordinarily skilled artisan to know that Applicant had possession of such claimed subject matter.

Thus, the application indeed provides an adequate written description and that the reflective material is isolated from an etching process as claimed is clearly supported by the application to include the drawings. Hence, one of ordinary skill in the art would recognize that the Applicant had possession of the claimed subject matter at the time of filing the Application and that the claim amendments of October 9, 2002, to independent claims 1, 12, and 23, are not new matter.

In view of the foregoing, reconsideration and withdrawal of the §112, first paragraph rejection are respectfully requested.

III. FORMAL MATTERS AND CONCLUSION

Regarding the drawings objection, Applicant again notes that Figures 1A-3B are “Related Art”, as clearly indicated in the specification, not “Prior Art” as alleged by the Examiner. Contrary to the Examiner’s assertions, a “conventional” process is not necessarily a “prior art” process. A “prior art” process must fall under one of the subparagraphs of 35 U.S.C. § 102. A “conventional” process does not, as should be readily recognized The

09/695,028
BUR920000047US1

6

Figures are used as an aid in describing conventional art methods described in the "Description of the Related Art" section of the Specification. They are not "Prior Art", as asserted by the Examiner.

That is, Figures 1A-3B were not published or known outside the confines of International Business Machines Corporation prior to the filing date of the application, and hence cannot be used against the claims of the present application. Again, Applicant purposely avoided the label "Prior Art" to guard against such an eventuality. Thus, to label these Figures as "Prior Art" would be erroneous.

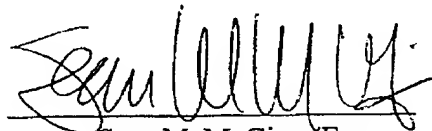
In view of the foregoing, Applicant submits that claims 1-33, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to the assignee's Deposit Account No. 09-0456.

Respectfully Submitted,

Date: January 23, 2003


Sean M. McGinn, Esq.
Reg. No. 34,386

McGinn & Gibb, PLLC
8321 Old Courthouse Rd. Suite 200
Vienna, VA 22182-3817
(703) 761-4100
Customer No. 21254

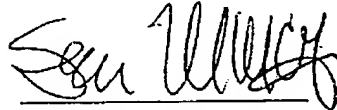
FAX RECEIVED
JAN 24 2003
GROUP 1700

09/695,028
BUR920000047US1

7

CERTIFICATION OF FACSIMILE TRANSMISSION

I hereby certify that I am filing this Amendment by facsimile with the United States Patent and Trademark Office to Examiner Alanko, Anita K., Group Art Unit 1765 at fax number (703) 872-9311 this 23rd day of January, 2003.

A handwritten signature in black ink, appearing to read "Sean McGinn", written over a horizontal line.

Sean M. McGinn, Esq.
Reg. No. 34,386